

REMARKS

Present Status of the Application

The Office Action mailed on July 16, 2002 rejected all presently-pending claims 1-27. Specifically, claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pariza et al. (U.S. Patent No. 6,268,845) in view of Huppenthal et al. (U.S. Patent No. 6,339,819).

Applicant has amended claims 1, 13, and 17 to clarify the invention. Claims 25-27 have been canceled. New claims 28-30 have been added. No new matter adds through the amendments. After entry of the foregoing amendments, claims 1-24 and 28-30 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Office Action Rejections under 35 U.S.C. 103(a)

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pariza et al. (U.S. Patent No. 6,268,845) in view of Huppenthal et al. (U.S. Patent No. 6,339,819).

Applicant respectfully traverses the rejection for the reasons set forth below.

In addition to the differences between the present invention and the cited references as pointed out in our response to the first Office Action, Applicant has amended independent claims 1 and 13 to specify that the device of the present invention, including the monitor controller and the USB lines, is installed in the monitor system. Neither Pariza nor Huppenthal teaches or suggests such a feature. On Col. 4, lines 28-30 and lines 47-67, Pariza teaches that his computer system C is composed of a base system B and a monitor 102. Fig. 1 clearly shows that the base system B is separated from the monitor 102. The processor (100), and the A/D convertor (140), the ROM (134), the Memory/PCI/Cache controller (108), and the USB (122, 124, 126) mentioned in the Office Action are not installed in the monitor system. They are located in the base system B.

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Pariza is directed to bezel button controls over USB for a computer system having a base system B (processing unit) and a monitor having multiple bezel buttons for recalling predefined or programmable functions of the base system. Pariza teaches an independent user interface for consumer which solves the user-unfriendliness of mouse and keyboard. This particular user interface, which operates no different than "hot keys" on a keyboard, resides on the bezel of the front side of the monitor for executing certain functions of the base system through a USB interface. In contrast, the present invention as defined in claims 1, 13, and new claim 28 provides a device and method for repeatedly updating the function of a monitor during manufacturing and testing of a monitor. The present invention provides a simplified system and method for updating the function of a monitor by taking advantage of the common USB interface as a connector for performing the update.

Details technical and structural differences are presented in this following. Pariza teaches a more user-friendly user interface by providing extra buttons on the bezel of a monitor. Such user-friendliness is well demonstrated by the "sun" and "moon" shaped LEDs. The user interface utilizes the common USB interface as the connector because of its plug-in-play capability and expandability. The bezel button controls basically provide a simulation of complicated mouse or keyboard input by a simple push of the bezel button controls. The entire system can be seen as a USB hub and extension because the operation of the entire system relies on the software that operates at a ring 3 layer and a ring 0 layer. The only bezel button controls that relate to the "functions" of a monitor according to table 1 is sleep button 212 and OSD button 218. These two buttons control the monitor controller via the USB controller for activating sleep mode and recalling the OSD. However the actual changing or controlling of the monitor is provided by the mouse controlled applet (MONITOR.CPL) which is a software residing in the computer. Pariza clearly fails to teach a starting device and a recovery device as

defined in claim 1.

Huppenthal has been cited to teach electrically erasable programmable ROMs. However, Huppenthal clearly cannot cure the deficiencies of Pariza as discussed above.

As for the ROMs, Huppenthal teaches a multiprocessor system with memory algorithmic processor (MAP) architecture for increasing performance of a multiprocessor computer system. Huppenthal teaches MAP assembly with on-board reconfigurable read only memory (ROM) devices to cause alterations in the functionality of the reconfigurable circuitry. The ROM is used to perform a specific algorithm of the MAP of the DMA allowing it to execute tasks independently and asynchronously of the processor. An user array performing the actual computational functions of the MAP elements is configured by loading the user commands from the content of selected configuration ROMs into the FPGAs. As a result the ROM used in Huppenthal invention is for providing different configurations or MAP. It is known to those skilled in the art that an electronically erasable programmable ROM is known to provide reconfigurability and therefore its application and structural usage must be taken into account. Huppenthal does not disclose any information regarding a monitor and updating/modifying hardware/firmware function of a monitor. Huppenthal is clearly teaching away from the present invention in the direction of a multiprocessor system. Thus, the proposed combination is improper.

For at least the reasons discussed above, the amended claims 1 and 13 are patentable over Pariza and Huppenthal. Claims 2-12 and 14-24 depend from claims 1 and 13, respectively, and are patentable over Pariza and Huppenthal for at least the same reasons as for claims 1 and 13.

New Claims

New claims 28-30 are believed patentable for at least the reasons discussed above.

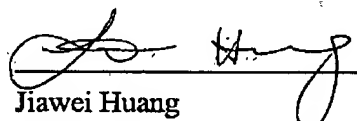
CONCLUSION

For at least the foregoing reasons, it is believed that all pending claims 1-24 and 28-30 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 13, and 17 have been amended as follows:

1. (Once Amended) A device installed in a monitor system for updating the function of a monitor of the monitor system, comprising:

USB signal lines for transmitting a recording command and recorded data;

a detecting device electrically coupled to the USB signal lines for detecting and outputting the recording command and the recorded data;

a starting device electrically coupled to the detecting device for receiving the recording command and the recorded data and then transmitting the recording command and the recorded data when the starting device is switched from a visual path to a recording path;

a ROM recording command decoder for converting the recording command into a erase/read/write signal and the recorded data into a address signal and a data signal by switching the starting device to the recording path;

a ROM electrically connected to the ROM recording command decoder, of which data can be updated according to the address signal, the data signal and the erase/read/write signal; and

a recovery device electrically coupled to the ROM recording command decoder and the starting device for determining whether the data stored in the ROM are already updated according the address signal, the data signal and the read/write signal and for switching the starting device from the recording path to the visual path when the data of the ROM are already updated.

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13. (Once Amended) A system for updating the function of a monitor, comprising:
a recording device for storing and outputting a recording command and recorded data;
USB signal lines electrically coupled to the recording device for transmitting the recording command and the recorded data; and
a monitor controller having a monitor in-system programming memory, electrically coupled to the USB signal lines, wherein if a setting command of the recorded data from the USB signal lines is correct, the monitor controller is modified according to the recording command and the recorded data, wherein the USB signal lines and the monitor controller are installed in a monitor system.

17. (Once Amended) The system for updating the function of a monitor as claimed in claim 16, wherein the detecting device further comprises:

a USB multi-address checking circuit electrically coupled to the USB signal lines for checking the [a serial] setting command[s] of the recorded data and then transmitting a setting signal when the checked the [serial] setting command[s are] is correct; and

a monitor in-system programming (MISP) flag electrically coupled to the USB multi-address checking circuit for setting the monitor to a monitor in-system programming control mode according to the setting signal and transmitting a monitor in-system programming starting signal.

Claims 25-27 have been canceled.

New claims 28-30 have been added.

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